

Work Order ID 130250

Monday, March 02, 2015 8:31:51 AM

130250

~~Ship March 13~~

Page 1

Item ID: D5951

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Saddle

Start Date: 3/2/2015 Start Qty: 2.00 *2*

Cust Item ID:

Required Date: 3/2/2015 Req'd Qty: 2.00 *2*

Customer:

Reference:

Approvals: Process Plan: MUS Date: 15-03-02 Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start *NR1*
Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D5951	Rev B

100

100

HAAS 1

HAAS CNC vertical machine #1

HAAS CNC VERTICAL MACHINING #1

Memo

1-Machine as per folio D5951, Ensure Batch Number is entered
2-Machine Keyway
3-Deburr & Tumble

0.00

0.00

15-03-16

2 0 JFC 2015-03-17

110

110

QC

Quality Control

QC1- Inspection performed by CMM

Memo

0.00

0.00

2 0 JFC 2015-03-17

120

120

QC

Quality Control

QC8- Inspect parts - second check

Memo

0.00

0.00

15-03-18

2 0 DAS 08 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General	Other	Other
☐ Bending	☐ Bend	☐ Folio/Program	☐ Outside Dimensions
☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance
☐ Cracks	☐ Broken/Damage/Defect	☐ Hardware	☐ Part Incorrect
☐ Crimp/Kink/Ripple/Wave	☐ Burrs	☐ Inspection Incomplete/Unqualified	☐ Part Lost/Missing
☐ Cuffs	☐ Contamination	☐ Instructions Incomplete/Unclear	☐ Part Moved
☐ Crushing	☐ Countersink	☐ Misaligned/off center	☐ Positioned Wrong
☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Power Loss/Surge
☐ Inspection Strip in Tube	☐ Drawing	☐ Misread	☐ Pressure/Forced
☐ Marks/Chatter	☐ Drill Holes	☐ Off-set	☐ Set-up
☐ Turning Sequence	☐ Finish	☐ Out of Calibration	☐ Temperature/Cure
☐ Wave/Twist in Tube	☐ Fit/Function	☐ Out of Sequence	☐ Weld
			☐ Wrong Stock Pulled
			☐ Other

Work Order ID 130250

Monday, March 02, 2015 8:31:51 AM

130250

Page 2

Item ID: D5951 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Saddle
 Start Date: 3/2/2015 Start Qty: 2.00 ***2*** Cust Item ID:
 Required Date: 3/2/2015 Req'd Qty: 2.00 ***2*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Chemical Conversion Coat per QSI005 4.1	0.00				2	0	15-3-19	
130	HandFinish	0.00							
Hand Finishing	Memo								
140	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00				2	0	15-3-28	DAS 34 9-89
140	Powdercoat	0.00							
Powder Coating	Memo								
	START TIME: 3:20 FINISH TIME: 4:00								
150	QC3- Inspect Part Finish	0.00				2			DAS 38 9-89
150	QC	0.00							
Quality Control	Memo								

MAR 24 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 130250

Monday, March 02, 2015 8:31:51 AM

130250

Page 3

Item ID: D5951

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Saddle

Stop

NS2

Start Date: 3/2/2015

Start Qty: 2.00

2

Cust Item ID:

Required Date: 3/2/2015

Req'd Qty: 2.00

2

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

Identify as per dwg & Stock Location: ST 392 0.00***160***

Packaging

Memo

0.00

Packaging

2XDAS
26
- 09

MAR 24 2015

170

QC21- Final Inspection - Work Order Release

0.00

170

QC

Memo

0.00

Quality Control

15/3/2648

ME

15-3-24

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Monday, March 02, 2015 8:31:54 AM

Page 1

Work Order ID: 130250

130250

Parent Item: D5951

D5951

Parent Item Name: Saddle

Start Date: 3/2/2015

Required Date: 3/2/2015

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP Rev:E Re-Format 05-11-29 JLM
IPP Rev:E Re-Format 05-11-29 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-013		Manufactured	No			100	Each	12.0000	1	2			

D6101-013

**

Saddle Billet

Location

MAT042

118891

MAT044

124221

Loc Qty

6

6

6

6

Loc Code

P 15-03-16

2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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DART AEROSPACE LTD		Work Order: 130250
Description: Outer Fwd Saddle		Part Number: D5951
Inspection Dwg: D5951	Rev: B	Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				1	2	3	4		
A	0.437	0.444		0.439	0.439				
B	1.745	1.755		1.750	1.750				
C	5.245	5.255		5.250	5.250				
D	6.995	7.005		7.000	7.000				
E	5.240	5.260		5.250	5.250				
F	4.745	4.755		4.750	4.750				
G	0.315	0.322		0.318	0.318				
H	1.522	1.532		1.527	1.527				
I	3.048	3.058		3.053	3.053				
J	4.575	4.585		4.580	4.580				
K	0.315	0.322		0.318	0.318				
L	0.495	0.505		0.500	0.500				
M	0.490	0.510		0.5035	0.502				
N	1.615	1.635		1.626	1.627				
O	7.990	8.010		7.999	7.999				
P	2.240	2.260		2.254	2.252				
Q	0.307	0.312		0.312	0.312				
R	0.760	0.765		0.760	0.760				
S	0.490	0.510		0.500	0.500				
T	1.375	1.395		1.391	1.3846				
U	2.000	2.020		2.0106	2.0049				
V									
W									
X									
Y									
Z									
AA									
AB									
AC									
AD									
AE									
AF									
AG									
AH									
Accept/Reject									

Measured by: JFC
Date: 2015-03-17

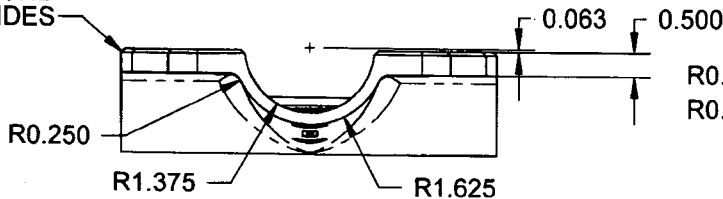
Audited by: A.A. DAS
Date: 15/03/18 08:59

Rev	Date	Change	Revised by	Approved
A	99.04.19	New Issue	RF	
B	02.12.13	Reformat; Added Dim. T-U & DT8682, DT8686	KJ/RF	
C	06.12.06	Dimensions A,G,K,L,N,P revised	KJ/EC	
D	07.06.15	Dimension G revised	KJ/JLM	
E	08.04.21	Dimension E revised	KJ/DD	

DART

DESIGN BW	DRAWN BY CB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED LE	APPROVED [Signature]	DRAWING NO. D5951	REV. B SHEET 1 OF 1
DATE 06.11.07	TITLE OUTER FWD SADDLE SCALE 1:4		
REV A	DATE 97.05.06	DESCRIPTION NEW ISSUE	
B	06.11.07	INCORPORATE DEO 9102, DEO 9079; ADD 0.363 DIMENSION; Ø0.316 WAS Ø0.313; ADD TOLERANCE TO R2.000; ADD 0.363 DIM;	

CHAMFER
0.075 X 45°
ALL AROUND
BOTH SIDES



ENGRAVE PART NO.
AND BATCH NO.
WITH MIN RAD OF
0.010 TO MAX
DEPTH OF 0.010

R0.500
Ø0.316
(8 PLACES)

DRILL Ø0.316 THRU
Ø0.750 SPOT FACE
(2 PLACES)

GRAIN
DIRECTION

ENGRAVE DART LOGO WITH
MIN RAD OF 0.250 TO MAX
DEPTH OF 0.015

R0.660
Ø0.438
(4 PLACES)

0.500

1.750

5.250

7.000

8.000

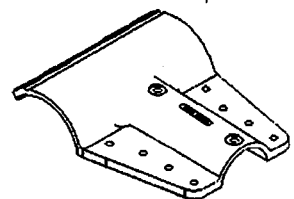
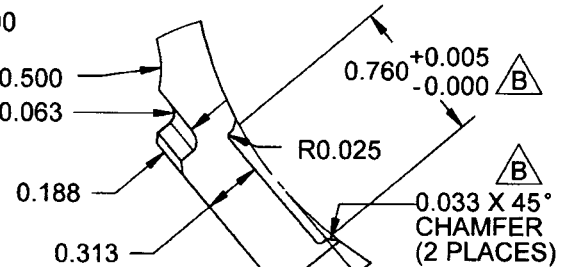
VIEW A-A

0.040 X 45° CHAMFER
ALL AROUND

D5951 OUTER FWD SADDLE

NOTES:

- 1) MATERIAL: ALUMINUM 7075-T7351 PER QQ-A-250/12
(MAKE FROM D6101-013 SADDLE BILLET, 7075)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES 0.010 TO 0.020



ISOMETRIC VIEW
SCALE 1:8

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Part Number: D5951	Rev: B	- Page 1 -
Description: OUTER FWD SADDLE	Inspection Dwg: D5951	Work Order: 130250

Name	Nominal	Upper Tol Lower Tol	No. Piece_1 Actual	No. Piece_2 Actual			
A Diameter	0.4380	0.0060 -0.0010	0.4375	0.4382			
B Distance XY	1.7500	0.0050 -0.0050	1.7499	1.7504			
C Distance XY	5.2500	0.0050 -0.0050	5.2492	5.2489			
D Distance XY	7.0000	0.0050 -0.0050	6.9986	6.9975			
E Distance ZX	5.2500	0.0100 -0.0100	5.2488	5.2487			
F Distance XY	4.7500	0.0050 -0.0050	4.7485	4.7487			
G Diameter	0.3160	0.0060 -0.0010	0.3160	0.3158			
H Distance XY	1.5270	0.0050 -0.0050	1.5266	1.5271			
I Distance XY	3.0530	0.0050 -0.0050	3.0533	3.0534			
J Distance YZ	4.5800	0.0050 -0.0050	4.5804	4.5802			
K Diameter	0.3160	0.0060 -0.0010	0.3161	0.3154			
L Distance ZX	0.5000	0.0050 -0.0050	0.4995	0.4995			
M Distance YZ	0.5000	0.0050 -0.0050	0.5043	0.5046			
O Distance XY	8.0000	0.0100 -0.0100	7.9984	7.9985			
S Distance XY	0.5000	0.0100 -0.0100	0.5008	0.5025			

Measured by:
Mathieu Lamarche

Date:
2015-3-19

Audited by:

Date:

15/03/18